Data Verification Reports

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-67634
Date Verified: 5/14/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: IM PM Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB01-0415	Water	4/7/2015	4/8/2015	8260B VOCs
54400-MW38-0415	Water	4/7/2015	4/8/2015	8260B VOCs
54400-MW36D-0415	Water	4/7/2015	4/8/2015	8260B VOCs
54402-EB01-0415	Water	4/7/2015	4/8/2015	8260B VOCs
54400-MW36-0415	Water	4/7/2015	4/8/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated methylene chloride was detected in a method blank. Acetone MS/MSD recoveries were outside evaluation criteria. Methylene chloride and acetone were detected in trip and equipment blanks. These issues are discussed further in the ADR report.

The cooler receipt form indicated no analyses were marked on the COC for sample 54402-EB01-0415. This issue is discussed further in Section 2.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X
Did samples listed on COCs match the sample labels?		X
Were samples relinquished properly on the COC?	X	

No analyses were marked on the COC for sample 54402-EB01-0415. Sample 54402-EB01-0415 was logged in for 8260B VOC analysis per the sample volume received. No qualification of data was required.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 3/31/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/16/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Are the RSDs for RFs for CCCs (vinyl chloride, 1,1-dichloroethene, chloroform, 1,2-dichloropropane, toluene, and ethylbenzene) ≤ 30% and one option below?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	280-272906/2	4/16/2015	06:17		
CCV Lab File ID:	280-272906/26	4/16/2015	14:40		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-67791
Date Verified: 5/18/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Laura Deck
URS ITR: Jeff Aust
Project Title: IM PM Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB02-0415	Water	4/8/2015	4/10/2015	8260B VOCs
54400-MW33-0415	Water	4/8/2015	4/10/2015	8260B VOCs
54400-MW40-0415	Water	4/8/2015	4/10/2015	8260B VOCs
54400-MW40D-0415	Water	4/8/2015	4/10/2015	8260B VOCs
54400-MW29-0415	Water	4/9/2015	4/10/2015	8260B VOCs
54400-MW28-0415	Water	4/8/2015	4/10/2015	8260B VOCs
54400-MW32-0415	Water	4/9/2015	4/10/2015	8260B VOCs
54400-MW39-0415	Water	4/9/2015	4/10/2015	8260B VOCs
54400-MW27-0415	Water	4/9/2015	4/10/2015	8260B VOCs
54402-EB02-0415	Water	4/9/2015	4/10/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in two method blanks. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 3/31/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/06/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/21/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/22/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Verification Criteria for Instrument VMS_H on 4/6/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_H on 4/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

Verification Criteria for Instrument VMS_H on 4/7/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	**280-273653/2**	**4/21/2015**	**07:37**		
CCV Lab File ID:	**280-273653/26**	**4/21/2015**	**15:20**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?					

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	**280-274037/2**	**4/22/2015**	**19:52**		
CCV Lab File ID:	**280-274037/32**	**4/23/2015**	**07:01**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	

Verification Criteria	Yes	No	N/A
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-67829
Date Verified: 5/18/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: IM PM Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB05-0415	Water	4/14/2015	4/15/2015	8260B VOCs
54402-EB05-0415	Water	4/14/2015	4/15/2015	8260B VOCs
54400-MW49M-0415	Water	4/14/2015	4/15/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report. The laboratory noted a software rounding issue with an ICAL. This issue is discussed further in Section 5.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_G2 on 4/7/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	

Verification Criteria for instrument VMS_G2 on 4/7/2015	Yes	No
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_G2 on 4/20/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 3/31/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/23/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_G2 on 4/7/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?		X	
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

In mid-April, a programming change occurred in the laboratory's information management system that impacted the reported %RSD results for initial calibrations. The ICAL above was analyzed *before* the programming change and the samples associated with the ICAL above were analyzed *after* the programming change. At the time the samples were run, the laboratory did not know that when the ICAL report was brought into the project that the flags were placed on the analytes that had %RSD > 15.0 as the calibration was processed before this was the norm. The DOD QSM and source method state the requirement to the nearest unit. The source method also states the requirement to the nearest unit.

This issue should not occur going forward. Based on the DOD QSM requirement that the %RSD be <= 15%, all data are acceptable.

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No	N/A
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_G2 on 4/7/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_G2				Yes	No
CCV Lab File ID:	**280-273479/2**	**4/20/2015**	**07:37**		
CCV Lab File ID:	**280-273479/34**	**4/20/2015**	**10:30**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	**280-274064/2**	**4/23/2015**	**07:50**		
CCV Lab File ID:	**280-274064/19**	**4/23/2015**	**13:12**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-67877
Date Verified: 5/18/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: IM PM Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB03-0415	Water	4/10/2015	4/11/2015	8260B VOCs
54400-MW2A-0415	Water	4/10/2015	4/11/2015	8260B VOCs
54400-MW2B-0415	Water	4/10/2015	4/11/2015	8260B VOCs
54400-MW34-0415	Water	4/10/2015	4/11/2015	8260B VOCs
54402-EB03-0415	Water	4/10/2015	4/11/2015	8260B VOCs
54400-MW35-0415	Water	4/10/2015	4/11/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in method blanks. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 3/31/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/22/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/23/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	280-274037/2	4/22/2015	19:52		
CCV Lab File ID:	280-274037/32	4/23/2015	07:01		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	**280-274064/2**	**4/23/2015**	**07:50**		
CCV Lab File ID:	**280-274064/19**	**4/23/2015**	**13:12**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-67886
Date Verified: 5/18/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Total Organic Carbon (9060A)

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54401-SB44-0415-39	Water	4/11/2015	4/14/2015	TOC (9060A)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

9060A Verification Criteria for ICALs on 4/29/2015 Instrument: WC Leco	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

9060A Verification Criteria for ICV 4/29/2015 15:47, Instrument: WC Leco	Yes	No
Was the second source analyzed after each calibration?	X	
Were all reported analytes within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

9060A Verification Criteria for all CCVs on 4/29/2015, Instrument: WC Leco	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-67886
Date Verified: 5/19/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB04-0415	Water	4/11/2015	4/14/2015	8260B VOCs
54400-MW30-0415	Water	4/11/2015	4/14/2015	8260B VOCs
54400-MW37D-0415	Water	4/11/2015	4/14/2015	8260B VOCs
5400-MW37-0415	Water	4/11/2015	4/14/2015	8260B VOCs
54402-EB04-0415	Water	4/11/2015	4/14/2015	8260B VOCs
54402-EB05-0415	Water	4/11/2015	4/14/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report.

The cooler receipt form indicated a discrepancy was noted between the sample ID listed on the COC and the sample ID listed on the container label for sample 54402-EB05-0415. The trip blank sample 54403-TB04-0415 was listed on the COC with a collection date of 04/13/2015. The associated field samples have an earliest collection date of 04/11/2015. These issues are discussed further in Section 3.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X
Did samples listed on COCs match the sample labels?		X
Were samples relinquished properly on the COC?	X	

The cooler receipt form indicated a discrepancy was noted between the sample ID listed on the COC and the sample ID listed on the container label for sample 54402-EB05-0415. The

COC listed the ID as 54402-EB04-0415. The container listed the ID as 54402-EB05-0415. Per URS chemist, the sample ID was logged using the container label.

The trip blank sample 54403-TB04-0415 was listed on the COC with a collection date of 04/13/2015. The associated field samples have an earliest collection date of 04/11/2015. Sample 54403-TB04-0415 was logged with a sample collection date of 04/11/2015 per the associated field samples.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 3/31/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/23/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_H on 3/31/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV % difference (%D) for all reported analytes within ± 20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	280-274064/2	4/23/2015	07:50		
CCV Lab File ID:	280-274064/19	4/23/2015	13:12		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	**280-274064/2**	**4/23/2015**	**07:50**		
CCV Lab File ID:	**280-274064/19**	**4/23/2015**	**13:12**		
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68148
Date Verified: 5/19/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: IM PM Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB06-0415	Water	4/20/2015	4/22/2015	8260B VOCs
54400-MW31-0415	Water	4/20/2015	4/22/2015	8260B VOCs
54400-BH0205-0415	Water	4/21/2015	4/22/2015	8260B VOCs
54400-BH0306-0415	Water	4/21/2015	4/22/2015	8260B VOCs
54400-BH0303-0415	Water	4/21/2015	4/22/2015	8260B VOCs
54400-BH0305-0415	Water	4/21/2015	4/22/2015	8260B VOCs
54402-EB06-0415	Water	4/21/2015	4/22/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_G2 on 4/28/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_G2 on 4/30/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_G2 4/28/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_G2 on 4/28/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_G2				Yes	No
CCV Lab File ID:	**280-275238/2**	**4/30/2015**	**08:30**		
CCV Lab File ID:	**280-275238/24**	**4/30/2015**	**14:15**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68269
Date Verified: 5/19/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: IM PM Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB07-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-BH0201S-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-BH0203S-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-BH0206-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-MW226-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-MW47-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-BH0203-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-BH0304-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-BH0202-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54402-EB07-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54400-BH0201-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54401-BH0201-0415	Water	4/22/2015	4/24/2015	8260B VOCs
54402-EB08-0415	Water	4/23/2015	4/24/2015	8260B VOCs
54400-MW225-0415	Water	4/23/2015	4/24/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated methylene chloride was detected in method blanks. A surrogate recovery was outside evaluation criteria in a method blank. These issues are discussed further in the ADR report.

The cooler receipt form indicated a sample ID was changed per the URS chemist. This issue is discussed further in Section 2.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X
Did samples listed on COCs match the sample labels?	X	

Verification Criteria	Yes	No
Were samples relinquished properly on the COC?	X	

The COC listed sample 54401-DUP01-0415. Per URS chemist, the sample ID was logged as 54401-BH0201-0415. No qualification of data was required.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_G2 on 4/28/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_G2 on 5/1/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 3/31/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 4/30/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_G2 4/28/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Verification Criteria for Instrument VMS_H 3/31/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_G2 on 4/28/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

Verification Criteria for Instrument VMS_H on 4/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_G2				Yes	No
CCV Lab File ID:	**280-275444/2**	**5/1/2015**	**07:04**		
CCV Lab File ID:	**280-275444/33**	**5/1/2015**	**16:01**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	**280-275228/2**	**4/30/2015**	**06:18**		
CCV Lab File ID:	**280-275228/29**	**4/30/2015**	**14:37**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?		X	

Due to high levels of trichloroethene and *cis*-1,2-dichloroethene, sample 54401-BH0201-0415 required dilutions of 20x and 200x. All LOQs were elevated as required.

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68518
Date Verified: 5/28/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: Investigation Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54400-MW182-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54403-TB08-0415	Water	4/27/2015	4/29/2015	8260B VOCs
54400-MW69-0415	Water	4/27/2015	4/29/2015	8260B VOCs
54400-BH0206S-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-MW223-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-MW224-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-MW45D-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-MW45S-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-MW42-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-MW67-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-MW179-0415	Water	4/28/2015	4/29/2015	8260B VOCs
54400-BH0202S-0415	Water	4/28/2015	4/29/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?	X		

The cooler receipt form indicated a sample collection time was changed per the URS chemist. This issue is discussed further in Section 2.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

The COC and container labels listed the collection time for sample 54400-MW178-0415 as 15:23. Per instructions from the GSI field manager the sample collection time was changed to 17:23.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_Z on 4/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 5/5/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 5/7/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_Z 4/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_Z on 4/27/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_Z				Yes	No
CCV Lab File ID:	280-276091/2	5/5/2015	20:22		
CCV Lab File ID:	280-276091/33	5/6/2015	07:01		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_Z				Yes	No
CCV Lab File ID:	**280-276534/2**	**5/7/2015**	**20:29**		
CCV Lab File ID:	**280-276534/25**	**5/8/2015**	**04:25**		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
6010C/7470A Metals

Laboratory SDG: 280-68572-1 **URS Chemist: Steve Gragert**
Date Verified: 5/29/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha **Project Title: SS544**
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5, Appendix B Tables 7, 8 and 9 from (DoD, 2013).
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
Inorganic Analysis Applicable Methods: SW-846 6010C/7470A Metals

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW218-0415	Water	4/29/2015	4/30/2015	6010C
54400-MW219-0415	Water	4/29/2015	4/30/2015	6010C

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

No issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Initial Calibration

ICP-AES Verification Criteria for instrument MT_025 on 5/4/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_025 on 5/5/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?	X		

ICP-AES Verification Criteria for instrument MT_025 on 5/8/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?	X		

5.0 Initial Calibration Verification [(ICV) Second Source]

ICP-AES Verification Criteria ICV 280-275965/7 on 05/04/2015 12:31	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-276130/8 on 05/05/2015 10:08	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-276806/8 on 05/08/2015 10:04	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

6.0 Low-Level Calibration Check Standard (ICP-AES/ICP-MS only)

ICP-AES Verification Criteria CRI 280-275965/15	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ±20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-276130/13	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ±20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-276806/18	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ±20% of the true value?	X	

7.0 Continuing Calibration Verification (CCV)

ICP-AES Verification Criteria for all CCVs on 5/4/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 5/5/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 5/8/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

8.0 Calibration Blanks

Verification Criteria	Yes	No
Was the calibration blank analyzed before beginning a sample run, after every 10 samples and at the end of the analysis sequence?	X	
Were analytes detected > LOD?		X
Were analytes detected above the DL?	X	

Blank ID	Analyte	Result (µg/L)
ICB 280-275965/14	Magnesium	21.6
CCB 280-276806/49	Iron	51.5

All associated analytes were >10x the blank contamination. No qualification of data was required.

9.0 Interference Check Solutions (ICS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No
Was the ICS analyzed at the beginning of each analytical run?	X	
ICS-A – Was the absolute value of concentration for all non-spiked analytes < 2x MDL (unless they are a verified trace impurity from one of the spiked analytes)?	X	
Was the ICS-AB within ± 20% of true value?	X	

10.0 Dilution Test [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the dilution test analyzed with each batch?	X		
Did the five-fold dilution agree within ± 10% of the original determination?	X		
If the dilution test failed, was a post digestion spike addition performed?			X

The dilution test was performed on sample 54400-MW218-0415.

11.0 Post Digestion Spike (PDS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the PDS addition performed when the dilution test failed?			X
Was the PDS addition performed when the analyte concentration in all samples < 50x MDL?			X
Was the recovery within 80-120%?			X

12.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

13.0 Additional Qualifications

Were additional qualifications applied?

No

14.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-68572-1 **URS Chemist: Steve Gragert**
Date Verified: 5/29/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW218-0415	Water	4/29/2015	4/30/2015	Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)
54400-MW219-0415	Water	4/29/2015	4/30/2015	Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated sulfate was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

9056A Verification Criteria for ICALs on 4/30/2015 Instrument: WC_IonChrom6	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

SM2320B Verification Criteria for ICALs on 5/4/2015 Instrument: WC-AT3	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

SM2540C Verification Criteria for ICALs on 5/1/2015 Instrument: WC_Cond_Orion	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

9056A Verification Criteria for ICV 4/30/2015 10:17, Instrument: WC_IonChrom6	Yes	No
Was the second source analyzed after each calibration?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2320B Verification Criteria for ICV 5/4/2015 11:23, Instrument: WC-AT3	Yes	No
Was the second source analyzed after each calibration?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2540C Verification Criteria for ICV 5/1/2015 11:36, Instrument: WC_Cond_Orion	Yes	No
Was the second source analyzed after each calibration?	X	
Were all reported analytes within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

9056A Verification Criteria for all CCVs on 4/30/2015, Instrument: WC_IonChrom6	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2320B Verification Criteria for all CCVs on 5/4/2015, Instrument: WC-AT3	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2540C Verification Criteria for all CCVs on 5/1/2015, Instrument: WC_Cond_Orion	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68572-1
Date Verified: 5/29/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB09-0415	Water	4/28/2015	4/30/2015	8260B VOCs
54400-MW217-0415	Water	4/29/2015	4/30/2015	8260B VOCs
54400-MW178-0415	Water	4/29/2015	4/30/2015	8260B VOCs
54402-EB09-0415	Water	4/29/2015	4/30/2015	8260B VOCs
54401-MW37-0415	Water	4/29/2015	4/30/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated that per GSI field manager, the ID listed on the COC and labels for sample 54400-MW178-0415 was changed to 54400-MW179-0415. This issue is discussed further in Section 2.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

As indicated in the previous section, the GSI field manager changed the ID listed on the COC and labels for sample 54400-MW178-0415 to 54400-MW179-0415. Since the change was requested after the samples had already been analyzed, the laboratory indicated that the sample's chromatograms and quantitation reports were unable to be updated since these forms are processed using a different program than their LIMS. All other forms in the report and case narrative were updated as requested.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_MS1 on 4/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_MS1 on 5/6/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_MS1 4/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_MS1 on 4/27/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_MS1				Yes	No
CCV Lab File ID:	280-276305/2	5/6/2015	20:45		
CCV Lab File ID:	280-276305/40	5/7/2015	02:35		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?		X	

Due to high levels of target compounds, sample 54400-MW37-0415 required dilutions of 4x and 40x. All LOQs were elevated as required.

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68572-2
Date Verified: 5/19/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: IM PM Sampling

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54401-MW37-0415	Water	4/29/2015	4/30/2015	8260B VOCs
54400-MW218-0415	Water	4/29/2015	4/30/2015	8260B VOCs
54400-MW49S-0415	Water	4/29/2015	4/30/2015	8260B VOCs
54400-MW37-0415	Water	4/29/2015	4/30/2015	8260B VOCs
54400-MW219-0415	Water	4/29/2015	4/30/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

No issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_MS1 on 4/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_MS1 on 5/6/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_MS1 4/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_MS1 on 4/27/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_MS1				Yes	No
CCV Lab File ID:	280-276305/2	5/6/2015	20:45		
CCV Lab File ID:	280-276305/40	5/7/2015	02:35		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?		X	

Due to high levels of target compounds, sample 54400-MW37-0415 required dilutions of 4x and 40x. All LOQs were elevated as required.

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-68572-3 **URS Chemist: Steve Gragert**
Date Verified: 5/29/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW218-0415	Water	4/29/2015	4/30/2015	Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)
54400-MW219-0415	Water	4/29/2015	4/30/2015	Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated TestAmerica-Denver does not hold DoD ELAP certification for both total phosphorus via USEPA Method 365.1 and sulfite via SM4500 SO3B. The results of these analyses are not site drivers. No qualification of data was required. Sulfite was analyzed outside of holding time for both samples. This issue is discussed further in Section 7.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

Note: Sulfite via method SM4500 SO3B is a titration that does not require an ICAL, ICV, or CCV. See the ADR report for batch QC details.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

365.1 Verification Criteria for ICALs on 4/30/2015 Instrument: WC_Konelab	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

365.1 Verification Criteria for ICV 5/8/2015 15:59, Instrument: WC_Konelab	Yes	No
Was the second source analyzed after each calibration?	X	
Was the second source % recovery (%R) within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

365.1 Verification Criteria for all CCVs on 5/8/2015, Instrument: WC_Konelab	Yes	No
Was the CCV analyzed every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

Sulfite was analyzed 5 days outside of the recommended holding time (at time of sampling). Associated data were qualified as listed below.

Sample ID	Analysis	Analyte	Qualification
54400-MW218-0415	Sulfite	Sulfite	**UJ**
54400-MW219-0415	Sulfite	Sulfite	**UJ**

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
7196A Hexavalent Chromium

Laboratory SDG: 280-68601-1 **URS Chemist: Steve Gragert**
Date Verified: 6/1/2015 **URS ITR: Jeff Aust**
Guidance: DoD QSM Version 5, Appendix B Tables 7, 8 and 9 from (DoD, 2013).
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
Inorganic Analysis Applicable Methods: SW-846 7196A Hexavalent Chromium

Sample Identification #	Sample Date	Received Date	Matrix	Analysis
54400-MW181-0415	Water	4/30/2015	5/1/2015	Hexavalent Chromium (7196A)
54401-MW181-0415	Water	4/30/2015	5/1/2015	Hexavalent Chromium (7196A)

Note: This data verification discusses issues not verified by ADR.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

No issues were noted in the laboratory case narrative or cooler receipt form. Although it was not indicated in the laboratory case narrative, the hexavalent chromium analyses were completed one day outside the 24 hour holding time criteria. This issue is discussed further in the ADR report.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Were all sample identifications (IDs) documented correctly on sample labels?	X	
Did samples listed on COCs match the sample labels?	X	

3.0 Initial Calibration

Verification Criteria on 5/1/2015	Yes	No
Was at least a 3-point calibration and calibration blank completed prior to sample analysis?	X	
Was $r^2 \geq 0.99$?	X	

4.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria on 5/1/2015	Yes	No
Was the ICV analyzed before beginning a sample run?	X	
Were all reported analytes within ± 10% of the true value?	X	

5.0 Continuing Calibration Verification (CCV)

Verification Criteria 5/1/2015	Yes	No
Was the CCV analyzed every 15 samples and at the end of the analysis sequence?	X	

Verification Criteria 5/1/2015	Yes	No
Were all reported analytes within ± 10% of the true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
6010C/7470A Metals

Laboratory SDG: 280-68601-1
Date Verified: 6/1/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project Title: SS544
Guidance: DoD QSM Version 5, Appendix B Tables 7, 8 and 9 from (DoD, 2013).
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
Inorganic Analysis Applicable Methods: SW-846 6010C/7470A Metals

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW180-0415	Water	4/30/2015	5/1/2015	6010C
54400-MW181-0415	Water	4/30/2015	5/1/2015	6010C

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

No issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Initial Calibration

ICP-AES Verification Criteria for instrument MT_025 on 5/6/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_026 on 5/8/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?	X		

5.0 Initial Calibration Verification [(ICV) Second Source]

ICP-AES Verification Criteria ICV 280-276344/7 on 05/06/2015 11:42	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-276760/7 on 05/08/2015 12:18	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

6.0 Low-Level Calibration Check Standard (ICP-AES/ICP-MS only)

ICP-AES Verification Criteria CRI 280-276344/12	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-276760/12	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

7.0 Continuing Calibration Verification (CCV)

ICP-AES Verification Criteria for all CCVs on 5/6/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 5/8/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

8.0 Calibration Blanks

Verification Criteria	Yes	No
Was the calibration blank analyzed before beginning a sample run, after every 10 samples and at the end of the analysis sequence?	X	
Were analytes detected > LOD?		X
Were analytes detected above the DL?	X	

Blank ID	Analyte	Result (µg/L)
CCB 280-276760/43	Iron	28.5

All associated analytes were >10x the blank contamination. No qualification of data was required.

9.0 Interference Check Solutions (ICS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No
Was the ICS analyzed at the beginning of each analytical run?	X	
ICS-A – Was the absolute value of concentration for all non-spiked analytes < 2x MDL (unless they are a verified trace impurity from one of the spiked analytes)?	X	
Was the ICS-AB within ± 20% of true value?	X	

10.0 Dilution Test [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the dilution test analyzed with each batch?	X		
Did the five-fold dilution agree within ± 10% of the original determination?	X		
If the dilution test failed, was a post digestion spike addition performed?			X

The dilution test was performed on sample 54400-MW180-0415.

11.0 Post Digestion Spike (PDS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the PDS addition performed when the dilution test failed?			X
Was the PDS addition performed when the analyte concentration in all samples < 50x MDL?			X
Was the recovery within 80-120%?			X

12.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

13.0 Additional Qualifications

Were additional qualifications applied?

No

14.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-68601-1
Date Verified: 6/1/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW181-0415	Water	4/30/2015	5/1/2015	Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)
54401-MW181-0415	Water	4/30/2015	5/1/2015	Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated sulfate was detected in a method blank. This issue is discussed further in the ADR report. Ethene eluted outside the retention time window on the primary column for sample 54400-MW180-0415. The retention time shift is the result of matrix interference and data has been reported from the confirmation column which was unaffected by the matrix interference. No qualification of data was required. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

RSK-175 Verification Criteria for ICAL on 10/27/2015: Instrument VGC_J	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤ 20%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		

RSK-175 Verification Criteria for ICAL on 10/27/2015: Instrument VGC_J	Yes	No	N/A
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X

9056A Verification Criteria for ICALs on 5/1/2015 Instrument: WC_IonChrom6	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

RSK-175 Verification Criteria for ICV: 280-249892/12 Instrument VGC_J	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 20% of true value?	X	

9056A Verification Criteria for ICV 5/1/2015 10:04, Instrument: WC_IonChrom6	Yes	No
Was the second source analyzed after each calibration?	X	
Were all reported analytes within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

RSK-175 Verification Criteria for all CCVs on 5/3/2015, Instrument: VGC_J	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 20% of true value?	X	

9056A Verification Criteria for all CCVs on 5/1/2015, Instrument: WC_IonChrom6	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2320B Verification Criteria for all CCVs on 5/4/2015, Instrument: WC-AT3	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68601-1
Date Verified: 5/29/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB10-0415	Water	4/30/2015	5/1/2015	8260B VOCs
54400-MW180-0415	Water	4/30/2015	5/1/2015	8260B VOCs
54400-MW181-0415	Water	4/30/2015	5/1/2015	8260B VOCs
54400-MW180-0415	Water	4/30/2015	5/1/2015	8260B VOCs
54400-MW46S-0415	Water	4/30/2015	5/1/2015	8260B VOCs
54402-EB10-0415	Water	4/30/2015	5/1/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report.

The cooler receipt form indicated a discrepancy between the sample ID listed on the COC and the sample ID listed on the container label for trip blank sample 54403-TB10-0415. This issue is discussed further in Section 2.0.

One of the six 40-mL VOA vials submitted for sample 54400-MW181-0415 contained an air bubble greater than 6mm in diameter. Sufficient volume remained in the other VOAs to perform the requested analyses. No qualification of data was required.

The COC had multiple analyses requested for samples 54400-MW181-0415 and 54401-MW181-0415 crossed out. It was confirmed via GSI field manager that all analyses marked with an "X" should be performed, and that no analyses were intended to be crossed out. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X

Verification Criteria	Yes	No
Did samples listed on COCs match the sample labels?		X
Were samples relinquished properly on the COC?	X	

There was a discrepancy between the sample ID listed on the COC and the sample ID listed on the container label for trip blank sample 54403-TB10-0415. The COC listed the ID as "54403-TB10-0415". The container listed the ID as "54403-TB09-0415". The sample ID was logged per the COC.

The COC had multiple analyses requested for samples 54400-MW181-0415 and 54401-MW181-0415 crossed out. It was confirmed via GSI field manager that all analyses marked with an "X" should be performed, and that no analyses were intended to be crossed out. No other issues were noted in the laboratory case narrative or cooler receipt form.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 3/31/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 5/13/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 4/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 4/30/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 5/2/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	

Verification Criteria for instrument VMS_Z on 5/2/2015	Yes	No
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 5/7/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H 3/31/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Verification Criteria for Instrument VMS_Z 4/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_MS1 on 4/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

Verification Criteria for Instrument VMS_Z on 4/30/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_MS1					
CCV Lab File ID:	280-277371/2	5/13/2015	20:36		
CCV Lab File ID:	280-277371/35	5/14/2015	07:55	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_Z					
CCV Lab File ID:	**280-276534/2**	**5/7/2015**	**20:29**		
CCV Lab File ID:	**280-276534/25**	**5/8/2015**	**04:25**	**Yes**	**No**
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-68601-2 **URS Chemist: Steve Gragert**
Date Verified: 6/1/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW180-0415	Water	4/30/2015	5/1/2015	Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)
54400-MW181-0415	Water	4/30/2015	5/1/2015	Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated TestAmerica-Denver does not hold DoD ELAP certification for both total phosphorus via USEPA Method 365.1 and sulfite via SM4500 SO3B. The results of these analyses are not site drivers. No qualification of data was required. Sulfite was analyzed outside of holding time for both samples. This issue is discussed further in Section 7.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

Note: Sulfite via method SM4500 SO3B is a titration that does not require an ICAL, ICV, or CCV. See the ADR report for batch QC details.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

365.1 Verification Criteria for ICALs on 5/12/2015 Instrument: WC_Konelab	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

365.1 Verification Criteria for ICV 5/12/2015 19:51, Instrument: WC_Konelab	Yes	No
Was the second source analyzed after each calibration?	X	
Was the second source % recovery (%R) within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

365.1 Verification Criteria for all CCVs on 5/12/2015, Instrument: WC_Konelab	Yes	No
Was the CCV analyzed every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

Sulfite was analyzed 11 days outside of the recommended holding time (at time of sampling). Associated data were qualified as listed below.

Sample ID	Analysis	Analyte	Qualification
54400-MW180-0415	Sulfite	Sulfite	**UJ**
54400-MW181-0415	Sulfite	Sulfite	**UJ**

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
6010C/7470A Metals

Laboratory SDG: 280-68601-1
Date Verified: 6/3/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project: SS544
Guidance: DoD QSM Version 5, Appendix B Tables 7, 8 and 9 from (DoD, 2013).
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
Inorganic Analysis Applicable Methods: SW-846 6010C/7470A Metals

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW44S-0515	Water	5/1/2015	5/2/2015	6010C (total and dissolved)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated iron was detected in a method blank. A calcium MSD recovery was outside evaluation criteria. These issues are discussed further in the ADR report. The cooler receipt form indicated a hexavalent chromium bottle was received for sample 54400-MW44S-0515. The sample was received >2x the holding time criteria and analysis was canceled by the GSI field manager. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Initial Calibration

ICP-AES Verification Criteria for instrument MT_025 on 5/7/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_025 on 5/8/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_025 on 5/11/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_026 on 5/8/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?	X		

5.0 Initial Calibration Verification [(ICV) Second Source]

ICP-AES Verification Criteria ICV 280-276555/7 on 05/07/2015 10:16	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-276806/8 on 05/08/2015 10:04	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-277008/7 on 05/11/2015 10:46	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-276760/7 on 05/08/2015 12:18	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

6.0 Low-Level Calibration Check Standard (ICP-AES/ICP-MS only)

ICP-AES Verification Criteria CRI 280-276555/12	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-276806/14	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-277008/14	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-276760/12	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard within ±20% of the true value?	X	

7.0 Continuing Calibration Verification (CCV)

ICP-AES Verification Criteria for all CCVs on 5/7/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 5/8/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 5/11/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 5/8/2015	Yes	No
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

8.0 Calibration Blanks

Verification Criteria	Yes	No
Was the calibration blank analyzed before beginning a sample run, after every 10 samples and at the end of the analysis sequence?	X	
Were analytes detected > LOD?		X
Were analytes detected above the DL?	X	

Blank ID	Analyte	Result (µg/L)
CCB 280-276555/67	Potassium	443

All associated analytes were >10x the blank contamination. No qualification of data was required.

9.0 Interference Check Solutions (ICS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No
Was the ICS analyzed at the beginning of each analytical run?	X	
ICS-A – Was the absolute value of concentration for all non-spiked analytes < 2x MDL (unless they are a verified trace impurity from one of the spiked analytes)?	X	
Was the ICS-AB within ± 20% of true value?	X	

10.0 Dilution Test [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the dilution test analyzed with each batch?	X		
Did the five-fold dilution agree within ± 10% of the original determination?	X		
If the dilution test failed, was a post digestion spike addition performed?			X

The dilution test was performed on sample 54400-MW44S-0515.

11.0 Post Digestion Spike (PDS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the PDS addition performed when the dilution test failed?			X
Was the PDS addition performed when the analyte concentration in all samples < 50x MDL?			X
Was the recovery within 80-120%?			X

12.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

13.0 Additional Qualifications

Were additional qualifications applied?

No

14.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-68637-1
Date Verified: 6/3/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: RSK-175, Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW44S-0515	Water	5/1/2015	5/2/2015	RSK-175, Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), and TDS (SM2540C)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated sulfate was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

RSK-175 Verification Criteria for ICAL on 10/27/2015: Instrument VGC_J	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤ 20%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X

9056A Verification Criteria for ICALs on 5/2/2015 Instrument: WC_IonChrom6	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

RSK-175 Verification Criteria for ICV: 280-249892/12 Instrument VGC_J	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 20% of true value?	X	

9056A Verification Criteria for ICV 5/2/2015 10:28, Instrument: WC_IonChrom6	Yes	No
Was the second source analyzed after each calibration?	X	
Were all reported analytes within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

RSK-175 Verification Criteria for all CCVs on 5/3/2015, Instrument: VGC_J	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 20% of true value?	X	

9056A Verification Criteria for all CCVs on 5/2/2015, Instrument: WC_IonChrom6	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2320B Verification Criteria for all CCVs on 5/11/2015, Instrument: WC-AT3	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68637-1
Date Verified: 6/3/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54400-MW44S-0515	Water	5/1/2015	5/2/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?			
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated a surrogate recovery for sample 54400-MW44S-0515 was outside evaluation criteria. The sample was re-analyzed with similar results. This issue is discussed further in the ADR report. A trip blank was listed on the COC, but was not received by the laboratory. This issue is discussed further in Section 2.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X
Did samples listed on COCs match the sample labels?		X
Were samples relinquished properly on the COC?	X	

The trip blank listed on the COC was not received by the laboratory. It was left out of the cooler by mistake. No qualification of data was required.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_G2 on 5/11/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_G2 on 5/12/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_G2 5/11/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_G2 on 4/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_G2					
CCV Lab File ID:	280-277119/2	5/12/2015	18:12		
CCV Lab File ID:	280-277119/40	5/13/2015	04:49	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

Yes. The common laboratory contaminant 2-butanone detected at levels less than 2x the LOQ were reported as nondetect due to professional judgment.

Sample ID	Analysis	Analyte	New LOQ	Qualification
54400-MW44S-0515	VOCs	Acetone	--	U

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-68572-3 **URS Chemist: Steve Gragert**
Date Verified: 6/3/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Method: Total Phosphorus (365.1)

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW44S-0515	Water	5/1/2015	5/2/2015	Total Phosphorus (365.1)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated TestAmerica-Denver does not hold DoD ELAP certification for both total phosphorus via USEPA Method 365.1 and sulfite via SM4500 SO3B. The results of these analyses are not site drivers. No qualification of data was required. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

365.1 Verification Criteria for ICALs on 5/12/2015 Instrument: WC_Konelab	Yes	No	N/A
Was a minimum three standards and a calibration blank used for WC_IonChrom6?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

365.1 Verification Criteria for ICV 5/12/2015 19:51, Instrument: WC_Konelab	Yes	No
Was the second source analyzed after each calibration?	X	
Was the second source % recovery (%R) within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

365.1 Verification Criteria for all CCVs on 5/12/2015, Instrument: WC_Konelab	Yes	No
Was the CCV analyzed every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No.

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68855-1
Date Verified: 6/3/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB12-0515	Water	5/4/2015	5/7/2015	8260B VOCs
54402-EB12-0515	Water	5/4/2015	5/7/2015	8260B VOCs
54400-MW44D-0515	Water	5/5/2015	5/7/2015	8260B VOCs
54402-EB13-0515	Water	5/5/2015	5/7/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_G2 on 5/11/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits	X	

Verification Criteria for instrument VMS_G2 on 5/11/2015	Yes	No
listed in Table 4 of SW-846 8260B?		

Verification Criteria for instrument VMS_G2 on 5/12/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_G2 5/11/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_G2 on 4/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_G2					
CCV Lab File ID:	280-277119/2	5/12/2015	18:12		
CCV Lab File ID:	280-277119/40	5/13/2015	04:49	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68855-2
Date Verified: 6/3/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54400-MW48-0515	Water	5/5/2015	5/7/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_Z on 5/14/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_Z 5/14/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_Z on 5/14/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_G2					
CCV Lab File ID:	280-277378/3	5/14/2015	07:56		
CCV Lab File ID:	280-277378/22	5/14/2015	14:47	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68970-1
Date Verified: 6/4/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Methods: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54403-TB13-0515	Water	5/7/2015	5/9/2015	8260B VOCs
54400-MW46D-0515	Water	5/8/2015	5/9/2015	8260B VOCs
54401-MW46D-0515-DUP	Water	5/8/2015	5/9/2015	8260B VOCs
54402-EB15-0515	Water	5/8/2015	5/9/2015	8260B VOCs
54402-EB14-0515	Water	5/8/2015	5/9/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride and 1,2,3-trichlorobenzene were detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_Z on 5/14/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	

Verification Criteria for instrument VMS_Z on 5/14/2015	Yes	No
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 5/19/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_Z 6/4/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_Z on 6/4/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_Z					
CCV Lab File ID:	280-278072/2	5/19/2015	06:53		
CCV Lab File ID:	280-278072/26	5/19/2015	14:28	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-68970-2
Date Verified: 6/5/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Methods: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW50D-0515	Water	5/7/2015	5/9/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?	X		

The cooler receipt form indicated that per the GSI field manager, sample ID 54400-MW50-0515 as listed on the COC was changed to 54400-MW50D-0515. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_M1 on 4/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_M1 on 5/17/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_M1 4/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_M1 on 4/27/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_M1					
CCV Lab File ID:	280-277833/2	5/17/2015	16:24		
CCV Lab File ID:	280-277833/8	5/17/2015	18:49	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification

Laboratory SDG: 280-69262-1 **URS Chemist: Laura Deck**
Date Verified: 6/18/2015 **URS ITR: Jeff Aust**
Guidance: DoD QSM 5 **Project: SS544**
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Hexavalent Chromium (7196A)

Sample Identification #	Sample Date	Received Date	Matrix	Analysis
54400-MW51-0515	5/14/2015	5/15/2015	Aqueous	Hexavalent Chromium (7196A)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD-QSM deviations noted in the laboratory case narrative?		X	
Were DoD-QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Were all sample identifications (IDs) documented correctly on sample labels?	X	
Did samples listed on COCs match the sample labels?	X	

No issues were noted in the laboratory case narrative or cooler receipt form.

3.0 Initial Calibration

Verification Criteria on 5/15/2015	Yes	No
Was at least a 3-point calibration and calibration blank completed prior to sample analysis?	X	
Was $r \geq 0.995$?	X	

4.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria on 5/15/2015	Yes	No
Was the ICV analyzed before beginning a sample run?	X	
Were all reported analytes within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

Verification Criteria 5/15/2015	Yes	No
Was the CCV analyzed every 15 samples and at the end of the analysis sequence?	X	
Were all reported analytes within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-69262-1
Date Verified: 6/18/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Laura Deck
URS ITR: Jeff Aust
Project: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB15-0515	Water	5/14/2015	5/15/2015	8260B VOCs
54402-EB16-0515	Water	5/14/2015	5/15/2015	8260B VOCs
54400-MW51-0515	Water	5/14/2015	5/15/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

No issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_P on 5/16/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_P on 5/20/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_P 5/16/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_P on 5/16/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_MS1					
CCV Lab File ID:	**280-278332/2**	**5/20/2015**	**08:47**		
CCV Lab File ID:	**280-278332/26**	**5/20/2015**	**15:58**	**Yes**	**No**
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

Yes.

Sample ID	Analysis	Analyte	New LOQ	Qualification
54400-MW51-0515	VOCs	Acetone	--	U

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-69265-1
Date Verified: 6/16/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB14-0515	Water	5/11/2015	5/12/2015	8260B VOCs
54400-MW505-0515	Water	5/11/2015	5/12/2015	8260B VOCs
54401-MW505-0515	Water	5/11/2015	5/12/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_MS1 on 4/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_MS1 on 5/20/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_MS1 4/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_MS1 on 4/27/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_MS1					
CCV Lab File ID:	280-278474/2	5/20/2015	19:59		
CCV Lab File ID:	280-278474/36	5/21/2015	06:14	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-69265-1
Date Verified: 6/26/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54400-SB01-0515-0	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB01-0515-5	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB01-0515-12.5	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB01-0515-15	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB02-0515-0	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB02-0515-2.5	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB02-0515-10	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB02-0515-15	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB03-0515-0	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB03-0515-5	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB03-0515-10	Soil	5/18/2015	5/19/2015	8260B VOCs
54400-SB03-0515-15	Soil	5/18/2015	5/19/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated the NaHSO4 vials submitted for sample 54400-SB01-0515-0 did not contain liquid, and therefore the requested VOC analysis of the Terra Core vials could not be performed. The sample was re-logged in for VOC analysis from the 4 oz soil jar provided for percent moisture. VOC analysis requires zero headspace; however, the soil jar was previously opened in order to remove volume for the percent moisture analysis. This issue is discussed further in Section 10.0.

A trip blank was submitted with the soil samples listed in the table above. A trip blank is not required for soil VOC analysis. The trip blank data was not verified by the URS chemist. No qualification of data was required. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_J on 5/18/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_J on 5/19/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_J on 5/21/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_J 5/18/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_J on 5/18/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_J					
CCV Lab File ID:	**280-278246/2**	**5/19/2015**	**17:30**		
CCV Lab File ID:	**280-278246/25**	**5/19/2015**	**23:32**	**Yes**	**No**
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_J					
CCV Lab File ID:	**280-278648/2**	**5/21/2015**	**17:01**		
CCV Lab File ID:	**280-278648/11**	**5/21/2015**	**19:21**	**Yes**	**No**
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

Yes. As discussed in Section 1.0, the NaHSO4 vials submitted for sample 54400-SB01-0515-0 did not contain liquid, and therefore the requested VOC analysis of the Terra Core vials could not be performed. The sample was re-logged in for VOC analysis from the 4 oz soil jar provided for percent moisture. VOC analysis requires zero headspace; however, the soil jar was previously opened in order to remove volume for the percent moisture analysis. All associated data were qualified as indicated in the table below.

Sample ID	Analysis	Analyte	Qualification
54400-SB01-0515-0	VOCs	All VOCs	**J/UJ**

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-69513-1
Date Verified: 6/26/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB17-0515	Water	5/19/2015	5/20/2015	8260B VOCs
54400-EB17-0515	Water	5/19/2015	5/20/2015	8260B VOCs
54400-MW53D-0515	Water	5/19/2015	5/20/2015	8260B VOCs
54400-MW53S-0515	Water	5/19/2015	5/20/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 5/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits	X	

Verification Criteria for instrument VMS_H on 5/27/2015	Yes	No
listed in Table 4 of SW-846 8260B?		

Verification Criteria for instrument VMS_H on 5/28/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_P on 6/2/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_P on 6/2/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H 5/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Verification Criteria for Instrument VMS_P 6/2/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_J on 5/28/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

Verification Criteria for Instrument VMS_P on 6/2/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_J					
CCV Lab File ID:	**280-279458/2**	**5/28/2015**	**19:17**		
CCV Lab File ID:	**280-279458/33**	**5/29/2015**	**06:10**	**Yes**	**No**
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_P					
CCV Lab File ID:	**280-280068/2**	**6/2/2015**	**22:41**		
CCV Lab File ID:	**280-280068/22**	**6/3/2015**	**02:57**	**Yes**	**No**
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
6010C/7470A Metals

Laboratory SDG: 280-69589-1 **URS Chemist: Steve Gragert**
Date Verified: 6/30/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha **Project: SS544**
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5, Appendix B Tables 7, 8 and 9 from (DoD, 2013).
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
Inorganic Analysis Applicable Methods: SW-846 6010C/7470A Metals

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW54-0515	Water	5/20/2015	5/21/2015	6010C (total and dissolved)
54401-MW54-0515	Water	5/20/2015	5/21/2015	6010C (total and dissolved)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated iron was detected in a total method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Initial Calibration

ICP-AES Verification Criteria for instrument MT_025 on 5/30/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_025 on 6/1/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_025 on 6/5/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

5.0 Initial Calibration Verification [(ICV) Second Source]

ICP-AES Verification Criteria ICV 280-279691/8 on 05/30/2015 12:03	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-279916/7 on 06/01/2015 10:57	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-280670/7 on 06/05/2015 09:29	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

6.0 Low Level Calibration Check Standard (ICP-AES/ICP-MS only)

ICP-AES Verification Criteria CRI 280-279691/14	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-279916/12	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-280670/14	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

7.0 Continuing Calibration Verification (CCV)

ICP-AES Verification Criteria for all CCVs on 5/30/2015	Yes	No
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 6/1/2015	Yes	No
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 6/5/2015	Yes	No
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

8.0 Calibration Blanks

Verification Criteria	Yes	No
Was the calibration blank analyzed before beginning a sample run, after every 10 samples and at the end of the analysis sequence?	X	
Were analytes detected > LOD?		X
Were analytes detected above the DL?	X	

Blank ID	Analyte	Result (µg/L)
CCB 280-279916/44	Iron, total	38.3

All associated analytes were >10x the blank contamination. No qualification of data was required.

9.0 Interference Check Solutions (ICS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No
Was the ICS analyzed at the beginning of each analytical run?	X	
ICS-A – Was the absolute value of concentration for all non-spiked analytes < 2x MDL (unless they are a verified trace impurity from one of the spiked analytes)?	X	
Was the ICS-AB within ± 20% of true value?	X	

10.0 Dilution Test [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the dilution test analyzed with each batch?	X		
Did the five-fold dilution agree within ± 10% of the original determination?	X		
If the dilution test failed, was a post digestion spike addition performed?			X

The dilution test was performed on sample 54400-MW54-0515.

11.0 Post Digestion Spike (PDS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the PDS addition performed when the dilution test failed?			X
Was the PDS addition performed when the analyte concentration in all samples < 50x MDL?			X
Was the recovery within 80-120%?			X

12.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		

Did all analytes meet sensitivity requirements?	X		

13.0 Additional Qualifications

Were additional qualifications applied?

No

14.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-69589-1
Date Verified: 6/30/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), Hexavalent Chromium (7196A), and TDS (SM2540C)

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW54-0515	Water	5/20/2015	5/21/2015	Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), Hexavalent chromium (7196A), and TDS (SM2540C)
54401-MW54-0515	Water	5/20/2015	5/21/2015	Hexavalent chromium (7196A)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated chloride was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

9056A Verification Criteria for ICALs on 5/21/2015 Instrument: WC_IonChrom11	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

7169A Verification Criteria for ICAL on 5/21/2015: Instrument WC_HSPEC_7196	Yes	No
Was at least a 3-point calibration and calibration blank completed prior to sample analysis?	X	
Was $r \geq 0.995$?	X	

4.0 Second Source Calibration Verification

9056A Verification Criteria for ICV 5/21/2015 10:28, Instrument: WC_IonChrom11	Yes	No
Was the second source analyzed after each calibration?	X	
Were all reported analytes within ± 10% of true value?	X	

7196A Verification Criteria for ICV 5/21/2015 11:19, Instrument: WC_HSPEC_7196	Yes	No
Was the ICV analyzed before beginning a sample run?	X	
Were all reported analytes within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

9056A Verification Criteria for all CCVs on 5/21/2015, Instrument: WC_IonChrom11	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

7196A Verification Criteria for all CCVs on 5/21/2015, Instrument: WC_HSPEC_7196	Yes	No
Was the CCV analyzed every 15 samples and at the end of the analysis sequence?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2320B Verification Criteria for all CCVs on 5/27/2015, Instrument: WC-AT3	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-69589-1
Date Verified: 6/29/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust
Project: SS544

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB18-0515	Water	5/20/2015	5/21/2015	8260B VOCs
54400-MW54-0515	Water	5/20/2015	5/21/2015	8260B VOCs
54401-MW54-0515	Water	5/20/2015	5/21/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 5/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 5/28/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H 5/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_H on 5/28/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_H					
CCV Lab File ID:	280-279458/2	5/28/2015	19:17		
CCV Lab File ID:	280-279458/33	5/29/2015	06:10	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-69589-2 **URS Chemist: Steve Gragert**
Date Verified: 6/30/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW54-0515	Water	5/20/2015	5/21/2015	Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated TestAmerica-Denver does not hold DoD ELAP certification for both total phosphorus via USEPA Method 365.1 and sulfite via SM4500 SO3B. The results of these analyses are not site drivers. No qualification of data was required. Sulfite was analyzed outside of holding time. This issue is discussed further in Section 7.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

Note: Sulfite via method SM4500 SO3B is a titration that does not require an ICAL, ICV, or CCV. See the ADR report for batch QC details.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

365.1 Verification Criteria for ICALs on 5/29/2015 Instrument: WC_Konelab	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

365.1 Verification Criteria for ICV 5/29/2015 22:11, Instrument: WC_Konelab	Yes	No
Was the second source analyzed after each calibration?	X	
Was the second source % recovery (%R) within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

365.1 Verification Criteria for all CCVs on 5/21/2015, Instrument: WC_Konelab	Yes	No
Was the CCV analyzed every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

Sulfite was analyzed 6 days outside of the recommended holding time (at time of sampling). Associated data were qualified as listed below.

Sample ID	Analysis	Analyte	Qualification
54400-MW54-0515	Sulfite	Sulfite	**UJ**

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-69680-1
Date Verified: 6/29/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB18-0515	Water	5/21/2015	5/22/2015	8260B VOCs
54400-MW52D-0515	Water	5/21/2015	5/22/2015	8260B VOCs
54400-MW52S-0515	Water	5/21/2015	5/22/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated methylene chloride was detected in a method blank. This issue is discussed further in the ADR report.

The cooler receipt form indicated a discrepancy was noted between the sample collection time listed on the COC and the container labels for sample 54400-MW52S-0515. The collection time was logged in per the container labels. Custody seals were not present on the cooler upon laboratory receipt. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X
Did samples listed on COCs match the sample labels?		X
Were samples relinquished properly on the COC?	X	

As discussed in Section 1.0, a discrepancy was noted between the sample collection time listed on the COC and the container labels for sample 54400-MW52S-0515. The collection time was logged in per the container labels. No qualification of data was required.

Custody seals were not present on the cooler upon laboratory receipt. However, the cooler tape was not tampered with, all samples were accounted for, and sample containers showed signs of tampering. No qualification of data was required.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_Z on 6/1/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 6/2/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_Z 6/1/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_Z on 6/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_Z					
CCV Lab File ID:	280-280040/2	6/2/2015	18:27		
CCV Lab File ID:	280-280040/21	6/3/2015	01:39	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	

Verification Criteria	Yes	No
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
6010C/7470A Metals

Laboratory SDG: 280-70279-1 **URS Chemist: Steve Gragert**
Date Verified: 6/30/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5, Appendix B Tables 7, 8 and 9 from (DoD, 2013).
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
Inorganic Analysis Applicable Methods: SW-846 6010B/7470A Metals

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW55D-0615	Water	6/4/2015	6/5/2015	6010C (total and dissolved)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated sodium was detected in a total metals method blank. This issue is discussed further in the ADR report. A calcium PDS recovery was outside evaluation criteria. This issue is discussed further in Section 11.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Initial Calibration

ICP-AES Verification Criteria for instrument MT_025 on 6/16/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

ICP-AES Verification Criteria for instrument MT_026 on 6/15/2015	Yes	No	N/A
ICP-AES– Was a minimum one high standard and a calibration blank used for ICAL?	X		
ICP-AES– If more than one standard was used, was $r^2 \geq 0.99$?			X

5.0 Initial Calibration Verification [(ICV) Second Source]

ICP-AES Verification Criteria ICV 280-282271/7 on 06/16/2015 11:46	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria ICV 280-282103/7 on 06/15/2015 10:29	Yes	No
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X	
Was the ICV % R for all reported analytes within ±10% of the true value?	X	

6.0 Low Level Calibration Check Standard (ICP-AES/ICP-MS only)

ICP-AES Verification Criteria CRI 280-282271/12	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

ICP-AES Verification Criteria CRI 280-282103/13	Yes	No
Was the low-level calibration check standard analyzed daily, after the ICAL?	X	
Was the low-level calibration check standard %R for all reported analytes within ± 20% of the true value?	X	

7.0 Continuing Calibration Verification (CCV)

ICP-AES Verification Criteria for all CCVs on 6/16/2015	Yes	No
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

ICP-AES Verification Criteria for all CCVs on 6/15/2015	Yes	No
Were the CCVs analyzed after every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R for all reported analytes within ±10% of the true value?	X	

8.0 Calibration Blanks

Verification Criteria	Yes	No
Was the calibration blank analyzed before beginning a sample run, after every 10 samples and at the end of the analysis sequence?	X	
Were analytes detected > LOD?		X
Were analytes detected above the DL?	X	

Blank ID	Analyte	Result (µg/L)
CCB 280-282271/24	Potassium, total	249
CCB 280-282271/24	Sodium, total	181

All associated analytes were >10x the blank contamination. No qualification of data was required.

9.0 Interference Check Solutions (ICS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No
Was the ICS analyzed at the beginning of each analytical run?	X	
ICS-A – Was the absolute value of concentration for all non-spiked analytes < 2x MDL (unless they are a verified trace impurity from one of the spiked analytes)?	X	
Was the ICS-AB within ± 20% of true value?	X	

10.0 Dilution Test [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the dilution test analyzed with each batch?	X		
Did the five-fold dilution agree within ± 10% of the original determination?	X		
If the dilution test failed, was a post digestion spike addition performed?			X

The dilution test was performed on sample 54400-MW54-0515.

11.0 Post Digestion Spike (PDS) [ICP-AES/ICP-MS only]

Verification Criteria	Yes	No	N/A
Was the PDS addition performed when the dilution test failed?			X
Was the PDS addition performed when the analyte concentration in all samples < 50x MDL?			X
Was the recovery within 80-120%?			X

12.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

13.0 Additional Qualifications

Were additional qualifications applied?

No

14.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-70279-1 **URS Chemist: Steve Gragert**
Date Verified: 6/30/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), Hexavalent Chromium (7196A), and TDS (SM2540C)

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW55D-0615	Water	6/4/2015	6/5/2015	Alkalinity (SM2320B), Sulfate/Chloride/N+N (9056A), Hexavalent chromium (7196A), and TDS (SM2540C)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?		X	
Were DoD QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?		X	

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

9056A Verification Criteria for ICALs on 6/5/2015 Instrument: WC_IonChrom8	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

7196A Verification Criteria for ICAL on 6/5/2015: Instrument WC_HSPEC_7196	Yes	No
Was at least a 3-point calibration and calibration blank completed prior to sample analysis?	X	
Was $r \geq 0.995$?	X	

4.0 Second Source Calibration Verification

9056A Verification Criteria for ICV 6/5/2015 10:28, Instrument: WC_IonChrom8	Yes	No
Was the second source analyzed after each calibration?	X	

9056A Verification Criteria for ICV 6/5/2015 10:28, Instrument: WC_IonChrom8	Yes	No
Were all reported analytes within ± 10% of true value?	X	

7196A Verification Criteria for ICV 6/5/2015 11:39, Instrument: WC_HSPEC_7196	Yes	No
Was the ICV analyzed before beginning a sample run?	X	
Were all reported analytes within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

9056A Verification Criteria for all CCVs on 6/5/2015, Instrument: WC_IonChrom8	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

7196A Verification Criteria for all CCVs on 6/5/2015, Instrument: WC_HSPEC_7196	Yes	No
Was the CCV analyzed every 15 samples and at the end of the analysis sequence?	X	
Were all reported analytes within ± 10% of true value?	X	

SM2320B Verification Criteria for all CCVs on 6/12/2015, Instrument: WC-AT3	Yes	No
Were all project analytes within established retention time windows?	X	
Were all reported analytes within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

No

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-70279-1
Date Verified: 6/30/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB19-0615	Water	6/4/2015	6/5/2015	8260B VOCs
54402-EB18-0615	Water	6/4/2015	6/5/2015	8260B VOCs
54400-MW43-0615	Water	6/4/2015	6/5/2015	8260B VOCs
54400-MW56-0615	Water	6/4/2015	6/5/2015	8260B VOCs
54400-MW55S-0615	Water	6/4/2015	6/5/2015	8260B VOCs
54400-MW55D-0615	Water	6/4/2015	6/5/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated methylene chloride and 1,2,3-trichlorobenzene were detected in a method blank. This issue is discussed further in the ADR report.

The trip blank did not have a sample time listed on the COC. Per GSI field manager, the sample was logged in with a time of 09:00. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

See Section 1.0.

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	

Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_H on 5/27/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_H on 6/11/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 6/1/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 6/9/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_H 5/27/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Verification Criteria for Instrument VMS_Z 6/1/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_H on 5/28/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

Verification Criteria for Instrument VMS_Z on 6/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_H					
CCV Lab File ID:	280-281475/2	6/11/2015	19:03		
CCV Lab File ID:	280-281475/33	6/12/2015	06:08	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

Verification Criteria for instrument VMS_H					
CCV Lab File ID:	280-281058/2	6/9/2015	17:45		
CCV Lab File ID:	280-281058/17	6/9/2015	23:13	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
General Chemistry Parameters

Laboratory SDG: 280-70279-3 **URS Chemist: Laura Deck**
Date Verified: 7/1/2015 **URS ITR: Steve Gragert**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (May 2014)
General Chemistry Parameters Applicable Methods: Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Methods
54400-MW55D-0615	Water	6/4/2015	6/5/2015	Total Phosphorus (365.1) and Sulfite (SM4500 SO3B)

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated TestAmerica-Denver does not hold DoD ELAP certification for both total phosphorus via USEPA Method 365.1 and sulfite via SM4500 SO3B. The results of these analyses are not site drivers. No qualification of data was required. Sulfite was analyzed outside of holding time. This issue is discussed further in Section 7.0. No other issues were noted in the laboratory case narrative or cooler receipt form.

Note: Sulfite via method SM4500 SO3B is a titration that does not require an ICAL, ICV, or CCV. See the ADR report for batch QC details.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Initial Calibration

365.1 Verification Criteria for ICALs on 6/19/2015 Instrument: WC_Konelab	Yes	No	N/A
Was a minimum three standards and a calibration blank used?	X		
Was $r^2 \geq 0.99$?	X		

4.0 Second Source Calibration Verification

365.1 Verification Criteria for ICV 6/19/2015 22:33, Instrument: WC_Konelab	Yes	No
Was the second source analyzed after each calibration?	X	
Was the second source % recovery (%R) within ± 10% of true value?	X	

5.0 Continuing Calibration Verification (CCV)

365.1 Verification Criteria for all CCVs on 6/19/2015, Instrument: WC_Konelab	Yes	No
Was the CCV analyzed every 10 samples and at the end of the analysis sequence?	X	
Was the CCV %R within ± 10% of true value?	X	

6.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

7.0 Additional Qualifications

Were additional qualifications applied?

Sulfite was analyzed 4 days outside of the recommended holding time (at time of sampling). Associated data were qualified as listed below.

Sample ID	Analysis	Analyte	Qualification
54400-MW55D-0615	Sulfite	Sulfite	**UJ**

8.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were samples analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-70577-1
Date Verified: 7/1/2015
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

URS Chemist: Steve Gragert
URS ITR: Jeff Aust

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB20-0615	Water	6/10/2015	6/11/2015	8260B VOCs
54400-MW57D-0615	Water	6/10/2015	6/11/2015	8260B VOCs
54402-EB19-0615	Water	6/10/2015	6/11/2015	8260B VOCs
54400-MW57S-0615	Water	6/10/2015	6/11/2015	8260B VOCs
54401-MW57D-0615	Water	6/10/2015	6/11/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride and 1,2,3-trichlorobenzene were detected in a method blank. This issue is discussed further in the ADR report. No other issues were noted in the laboratory case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_Z on 6/1/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	

Verification Criteria for instrument VMS_Z on 6/1/2015	Yes	No
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 6/17/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_Z 6/1/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_Z on 6/1/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_Z					
CCV Lab File ID:	280-282244/2	6/17/2015	06:30		
CCV Lab File ID:	280-282244/14	6/17/2015	10:00	Yes	No
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

McConnell AFB Data Verification
8260B VOCs

Laboratory SDG: 280-70723-1 **URS Chemist: Laura Deck**
Date Verified: 7/1/2015 **URS ITR: Jeff Aust**
Client: USACE – Omaha
Laboratory: TestAmerica-Denver
Guidance: DoD QSM Version 5 (July 2013)
Applicable QAPP: McConnell Air Force Base PBR QAPP (March 2014)
Organic Analysis Applicable Method: SW-846 8260B VOCs

Sample ID #	Matrix	Sample Date	Date Lab Rec'd	Method
54403-TB22-0615	Water	6/12/2015	6/13/2015	8260B VOCs
54400-IDW06-0615	Water	6/12/2015	6/13/2015	8260B VOCs
54400-EB19-0615	Water	6/12/2015	6/13/2015	8260B VOCs
54400-MW41S-0615	Water	6/12/2015	6/13/2015	8260B VOCs
54400-MW41D-0615	Water	6/12/2015	6/13/2015	8260B VOCs

Note: This data verification only discusses QC issues not verified by ADR. ADR forms and a table of qualifiers are attached to this verification. "Yes/No" answers that indicate a possible data quality issue are shaded.

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD QSM deviations noted in the laboratory case narrative?	X		
Were DoD QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?		X	

The laboratory case narrative indicated methylene chloride was detected in a method blank. A 4-bromofluorobenzene surrogate recovery was outside of evaluation criteria. These issues are discussed further in the ADR report. One sample required a dilution prior to analysis. This issue is discussed further in Section 9.0. No other issues were noted in the case narrative or cooler receipt form.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

3.0 Holding Time

Verification Criteria	Yes	No
Were all samples extracted and/or analyzed within the appropriate holding time?	X	
Were all samples preserved appropriately?	X	

4.0 Instrument Performance Check (Tuning)

Verification Criteria for instrument VMS_Z on 6/1/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

Verification Criteria for instrument VMS_Z on 6/24/2015	Yes	No
Was instrument tuning completed prior to calibration?	X	
Was instrument tuning completed every 12 hours during sample analysis?	X	
Were ion relative abundance for each target mass within the required intensity limits listed in Table 4 of SW-846 8260B?	X	

5.0 Initial Calibration

Verification Criteria for Instrument VMS_Z 6/1/2015	Yes	No	N/A
Was at least a 5-point calibration completed for all analytes prior to sample analysis?	X		
Option 1: RSD for each analyte ≤15%?	X		
Option 2: If linear least squares regression was used was $r^2 \geq 0.99$?	X		
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

6.0 Initial Calibration Verification [(ICV) Second Source]

Verification Criteria for Instrument VMS_Z on 6/2/2015	Yes	No
Was the ICV analyzed after each calibration?	X	
Was the ICV %difference (%D) for all reported analytes within ±20% of true value?	X	

7.0 Continuing Calibration Verification (CCV)

Verification Criteria for instrument VMS_H				Yes	No
CCV Lab File ID:	280-283594/2	6/24/2015	19:05		
CCV Lab File ID:	280-283594/27	6/25/2015	03:54		
Was a CCV analyzed daily before sample analysis?				X	
Was a CCV analyzed every 12 hours of analysis time?				X	
Was a CCV analyzed at the end of the analytical batch run?				X	
Were all reported analytes and surrogates within ± 20% of true value?				X	
Were all reported analytes and surrogates within ± 50% of true value for the end of analytical batch CCV?				X	

8.0 Internal Standard (IS) Recoveries

Verification Criteria	Yes	No
Were internal standards spiked for all samples and standards?	X	
Were internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X	
Were retention time ± 10 seconds from the retention time of the midpoint standard of the ICAL?	X	

9.0 Sensitivity

Verification Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?		X	

Due to a high level of trichloroethene, sample 54401-MW41D-0615 required a dilution of 4x. The sample was also analyzed undiluted.

10.0 Additional Qualifications

Were additional qualifications applied?

No.

11.0 Completeness

Verification Criteria	Yes	No	N/A
Were any data rejected during the verification process?		X	
Were any samples lost, broken, or in any other manner in not verified?		X	
Were all sample analyses requested performed, the correct analyte lists used and correct sample preparation and analyses methods and units utilized?	X		

Data Qualifier Summary Reports

Data Qualifier Summary

Lab Reporting Batch ID: 280-67634-1 **Laboratory: TAL DEN**

EDD Filename: 280-67634-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW36-0415** ***Collected:*** **4/7/2015 3:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	0.33	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	0.28	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.43	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
TRICHLOROETHENE	0.33	J	0.20	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW36D-0415** ***Collected:*** **4/7/2015 5:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	0.52	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	0.60	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.86	J	0.20	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.71	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
TRICHLOROETHENE	0.29	J	0.20	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW38-0415** ***Collected:*** **4/7/2015 1:00:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	22	J	6.4	LOD	10	LOQ	ug/L	UJ	Ms, Eb
CHLOROFORM	0.34		0.20	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.41		0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
NAPHTHALENE	0.32		0.80	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54402-EB01-0415** ***Collected:*** **4/7/2015 6:10:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	5.6	J	6.4	LOD	10	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.50	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

Sample ID: **54403-TB01-0415** ***Collected:*** **4/7/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.42	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67634-1

Laboratory: TAL DEN

EDD Filename: 280-67634-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Eb	Equipment Blank Contamination
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Rejection
RI	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67791-1 **Laboratory: TAL DEN**

EDD Filename: 280-67791-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW27-0415** ***Collected:*** **4/9/2015 3:35:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	0.30	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.44	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW28-0415** ***Collected:*** **4/8/2015 4:53:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.36	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW29-0415** ***Collected:*** **4/9/2015 8:44:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.43	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW32-0415** ***Collected:*** **4/9/2015 11:12:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	0.61	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CHLOROFORM	0.73	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.37	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
TRICHLOROETHENE	0.55	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW33-0415** ***Collected:*** **4/8/2015 10:50:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.48	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.41	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW39-0415** ***Collected:*** **4/9/2015 5:02:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CIS-1,2-DICHLOROETHENE	0.39	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.43	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67791-1 **Laboratory: TAL DEN**

EDD Filename: 280-67791-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW40-0415** ***Collected:*** **4/8/2015 1:22:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.38	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW40D-0415** ***Collected:*** **4/8/2015 2:35:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.38	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
NAPHTHALENE	0.79	J	0.80	LOD	1.0	LOQ	ug/L	J	Rl
TOLUENE	0.23	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: **54402-EB02-0415** ***Collected:*** **4/9/2015 5:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	7.8	J	6.4	LOD	10	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	0.42	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Tb

Sample ID: **54403-TB02-0415** ***Collected:*** **4/8/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.46	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67791-1

Laboratory: TAL DEN

EDD Filename: 280-67791-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Eb	Equipment Blank Contamination
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67829-1 **Laboratory: TAL DEN**

EDD Filename: 280-67829-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW49M-0415** ***Collected:*** **4/14/2015 5:35:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.29	J	0.20	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54402-EB05-0415** ***Collected:*** **4/14/2015 5:15:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
ACETONE	5.4	J	6.4	LOD	10	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.72	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

Sample ID: **54403-TB05-0415** ***Collected:*** **4/14/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
METHYLENE CHLORIDE	0.56	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67829-1

Laboratory: TAL DEN

EDD Filename: 280-67829-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67877-1 **Laboratory: TAL DEN**

EDD Filename: 280-67877-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW2A-0415** ***Collected:*** **4/10/2015 8:45:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.42	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW2B-0415** ***Collected:*** **4/10/2015 12:10:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.58	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.56	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
TRICHLOROETHENE	0.43	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW34-0415** ***Collected:*** **4/10/2015 2:00:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.85	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.44	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW35-0415** ***Collected:*** **4/10/2015 3:48:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.27	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.81	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.46	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54402-EB03-0415** ***Collected:*** **4/10/2015 5:22:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	8.9	J	6.4	LOD	10	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.51	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

Sample ID: **54403-TB03-0415** ***Collected:*** **4/10/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.42	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67877-1

Laboratory: TAL DEN

EDD Filename: 280-67877-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Eb	Equipment Blank Contamination
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67886-1 **Laboratory: TAL DEN**

EDD Filename: 280-67886-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW30-0415** ***Collected:*** **4/11/2015 9:25:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.21	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	0.49	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
CARBON TETRACHLORIDE	0.50	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl

Sample ID: **54400-MW37-0415** ***Collected:*** **4/11/2015 3:00:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.24	J	0.80	LOD	1.0	LOQ	ug/L	J	Rl
CARBON TETRACHLORIDE	1.9	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl
CHLOROFORM	0.96	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
CIS-1,2-DICHLOROETHENE	0.27	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	0.51	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54400-MW37D-0415** ***Collected:*** **4/11/2015 4:11:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.19	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl
CHLOROFORM	0.54	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
CIS-1,2-DICHLOROETHENE	0.16	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	0.48	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: **54402-EB04-0415** ***Collected:*** **4/11/2015 3:00:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	4.2	J	6.4	LOD	10	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	0.51	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

Sample ID: **54402-EB05-0415** ***Collected:*** **4/13/2015 6:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	4.6	J	6.4	LOD	10	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	0.45	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67886-1 **Laboratory: TAL DEN**

EDD Filename: 280-67886-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54403-TB04-0415** ***Collected:*** **4/11/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
METHYLENE CHLORIDE	0.48	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-67886-1

Laboratory: TAL DEN

EDD Filename: 280-67886-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Eb	Equipment Blank Contamination
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
RI	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68148-1 **Laboratory: TAL DEN**

EDD Filename: 280-68148-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev 13_CW**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-BH0205-0415** ***Collected:*** **4/21/2015 1:56:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
1,1-DICHLOROETHENE	0.16	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
BENZENE	0.26	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
TRICHLOROETHENE	0.24	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW31-0415** ***Collected:*** **4/20/2015 4:50:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
1,1-DICHLOROETHANE	0.29	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHENE	0.16	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68148-1

Laboratory: TAL DEN

EDD Filename: 280-68148-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68269-1 **Laboratory: TAL DEN**

EDD Filename: 280-68269-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-BH0201S-0415** ***Collected:*** **4/22/2015 11:12:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	1.1	J	1.6	LOD	2.0	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	1.6	J	1.6	LOD	10	LOQ	ug/L	U	Mb, Tb
BENZENE	0.37	J	0.80	LOD	2.0	LOQ	ug/L	J	Rl

Sample ID: **54400-BH0203-0415** ***Collected:*** **4/23/2015 12:43:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	4.1	J	6.4	LOD	10	LOQ	ug/L	U	Eb

Sample ID: **54400-BH0203S-0415** ***Collected:*** **4/23/2015 11:02:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.47	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Tb

Sample ID: **54400-BH0206-0415** ***Collected:*** **4/23/2015 12:08:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRICHLOROETHENE	0.83	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: **54400-BH0304-0415** ***Collected:*** **4/22/2015 2:28:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	0.67	J	0.80	LOD	1.0	LOQ	ug/L	J	Rl
TRANS-1,2-DICHLOROETHENE	0.80	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
TRICHLOROETHENE	0.60	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: **54400-MW225-0415** ***Collected:*** **4/23/2015 3:50:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.57	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: **54400-MW226-0415** ***Collected:*** **4/23/2015 4:00:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	0.41	J	0.80	LOD	1.0	LOQ	ug/L	J	Rl
CARBON TETRACHLORIDE	1.4	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68269-1 **Laboratory: TAL DEN**

EDD Filename: 280-68269-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW226-0415** ***Collected:*** **4/23/2015 4:00:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRICHLOROETHENE	0.46	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW47-0415** ***Collected:*** **4/22/2015 6:45:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DIBROMOCHLOROMETHANE	0.17	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
TRICHLOROETHENE	0.20	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54401-BH0201-0415** ***Collected:*** **4/22/2015 4:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	12	J	16	LOD	20	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	7.9	J	16	LOD	100	LOQ	ug/L	J	RI

Sample ID: **54402-EB07-0415** ***Collected:*** **4/22/2015 6:20:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	5.1	J	6.4	LOD	10	LOQ	ug/L	J	RI

Sample ID: **54403-TB07-0415** ***Collected:*** **4/22/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.57	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68269-1

Laboratory: TAL DEN

EDD Filename: 280-68269-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Eb	Equipment Blank Contamination
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68518-1 **Laboratory: TAL DEN**

EDD Filename: 280-68518-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW178-0415** ***Collected:*** **4/28/2015 5:23:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.85	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHENE	0.44	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW223-0415** ***Collected:*** **4/28/2015 11:56:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.66	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHENE	0.41	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW42-0415** ***Collected:*** **4/28/2015 9:20:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMODICHLOROMETHANE	0.75	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	0.37	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.62	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.94	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW45D-0415** ***Collected:*** **4/28/2015 12:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.20	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CHLOROFORM	0.88	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHENE	0.18	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW45S-0415** ***Collected:*** **4/28/2015 6:35:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.21	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHENE	0.19	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.17	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW67-0415** ***Collected:*** **4/27/2015 5:55:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYL TERT-BUTYL ETHER	1.0	J	0.80	LOD	5.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68518-1 **Laboratory: TAL DEN**

EDD Filename: 280-68518-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW69-0415** ***Collected:*** **4/27/2015 5:20:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CIS-1,2-DICHLOROETHENE	0.26	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
TRICHLOROETHENE	0.85	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68518-1

Laboratory: TAL DEN

EDD Filename: 280-68518-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68572-1 **Laboratory: TAL DEN**

EDD Filename: 280-68572-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: GENCHEM

Method: 9056A **Matrix: Water**

Sample ID: 54400-MW218-0415 **Collected:** 4/29/2015 9:22:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLORIDE	2.8	J	0.50	LOD	3.0	LOQ	mg/L	J	RI

Method Category: METALS

Method: 6010C **Matrix: Water**

Sample ID: 54400-MW218-0415 **Collected:** 4/29/2015 9:22:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	810	J	940	LOD	3000	LOQ	ug/L	J	RI

Sample ID: 54400-MW219-0415 **Collected:** 4/29/2015 9:50:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	1600	J	940	LOD	3000	LOQ	ug/L	J	RI

Method Category: VOA

Method: 8260B **Matrix: Water**

Sample ID: 54400-MW179-0415 **Collected:** 4/28/2015 6:50:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.38	J	0.80	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: 54400-MW217-0415 **Collected:** 4/29/2015 3:30:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	0.25	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
TRANS-1,2-DICHLOROETHENE	0.17	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: 54401-BMW37-0415 **Collected:** 4/29/2015 1:08:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	1.7	J	3.2	LOD	4.0	LOQ	ug/L	J	RI
TRANS-1,2-DICHLOROETHENE	3.4	J	1.6	LOD	4.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68572-1 **Laboratory: TAL DEN**

EDD Filename: 280-68572-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev 13_CW**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54402-EB09-0415** ***Collected:*** **4/28/2015 7:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
ACETONE	5.2	J	6.4	LOD	10	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68572-1

Laboratory: TAL DEN

EDD Filename: 280-68572-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68572-2 **Laboratory: TAL DEN**

EDD Filename: 280-68572-2_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW219-0415** ***Collected:*** **4/29/2015 9:50:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CARBON TETRACHLORIDE	0.44	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.23	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
TRANS-1,2-DICHLOROETHENE	0.93	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54400-MW37-0415** ***Collected:*** **4/29/2015 1:08:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
1,1-DICHLOROETHENE	1.7	J	3.2	LOD	4.0	LOQ	ug/L	J	RI
TRANS-1,2-DICHLOROETHENE	3.3	J	1.6	LOD	4.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68572-2

Laboratory: TAL DEN

EDD Filename: 280-68572-2_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68572-3 **Laboratory: TAL DEN**

EDD Filename: 280-68572-3_UrsMcConnell_rev **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **GENCHEM**

Method: **365.1** ***Matrix:*** **Water**

Sample ID: **54400-MW218-0415** ***Collected:*** **4/29/2015 9:22:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
PHOSPHORUS, TOTAL ORTHOPHOSPHATE (AS PO4)	0.063	J	0.015	MDL	0.15	MRL	mg/L	J	RI

Method Category: **GENCHEM**

Method: **SM 4500SO3_B** ***Matrix:*** **Water**

Sample ID: **54400-MW218-0415** ***Collected:*** **4/29/2015 9:22:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
SULFITE	2.0	U HF	0.50	MDL	2.0	MRL	mg/L	UJ	StoA

Sample ID: **54400-MW219-0415** ***Collected:*** **4/29/2015 9:50:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
SULFITE	2.0	U HF	0.50	MDL	2.0	MRL	mg/L	UJ	StoA

* denotes a non-reportable result

Project Name and Number: 3969-211 - USACE Project: McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68572-3

Laboratory: TAL DEN

EDD Filename: 280-68572-3_UrsMcConnell_rev

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation

* denotes a non-reportable result

Project Name and Number: 3969-211 - USACE Project: McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68601-1 **Laboratory: TAL DEN**

EDD Filename: 280-68601-1_UrsMcConnell_rev **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: METALS

Method: 6010C **Matrix: Water**

Sample ID: 54400-MW181-0415 **Collected:** 4/30/2015 11:05:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	1100	J	940	LOD	3000	LOQ	ug/L	J	RI

Sample ID: 54401-MW181-0415 **Collected:** 4/30/2015 11:05:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
IRON	92	J	85	LOD	100	LOQ	ug/L	J	RI
POTASSIUM	1000	J	940	LOD	3000	LOQ	ug/L	J	RI

Method Category: METALS

Method: 7196A **Matrix: Water**

Sample ID: 54400-MW181-0415 **Collected:** 4/30/2015 11:05:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Chromium, hexavalent	0.0040	U	0.0040	LOD	0.020	LOQ	mg/L	UJ	StoA

Sample ID: 54401-MW181-0415 **Collected:** 4/30/2015 11:05:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Chromium, hexavalent	0.0040	U	0.0040	LOD	0.020	LOQ	mg/L	UJ	StoA

Method Category: VOA

Method: 8260B **Matrix: Water**

Sample ID: 54400-MW180-0415 **Collected:** 4/30/2015 10:45:00 AM **Analysis Type:** Initial/TOT/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.88	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
1,2-DICHLOROETHANE	0.75	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
NAPHTHALENE	0.75	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
VINYL CHLORIDE	1.0	J	0.20	LOD	1.5	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - USACE Project: McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68601-1 **Laboratory: TAL DEN**

EDD Filename: 280-68601-1_UrsMcConnell_rev **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: VOA

Method: 8260B **Matrix:** Water

Sample ID: 54400-MW181-0415 **Collected:** 4/30/2015 11:05:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.20	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CHLOROFORM	0.96	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: 54400-MW46S-0415 **Collected:** 4/30/2015 3:30:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.41	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
BROMODICHLOROMETHANE	0.66	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHENE	0.24	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.83	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: 54401-MW181-0415 **Collected:** 4/30/2015 11:05:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.19	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CHLOROFORM	0.96	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Method Category: VOA

Method: RSK-175 **Matrix:** Water

Sample ID: 54400-MW180-0415 **Collected:** 4/30/2015 10:45:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ETHENE	2.5	J	1.4	LOD	5.0	LOQ	ug/L	J	RI
METHANE	0.37	J	0.80	LOD	5.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - USACE Project: McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68601-1

Laboratory: TAL DEN

EDD Filename: 280-68601-1_UrsMcConnell_rev

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
RI	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation

* denotes a non-reportable result

Project Name and Number: 3969-211 - USACE Project: McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68601-2 **Laboratory: TAL DEN**

EDD Filename: 280-68601-2_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **GENCHEM**

Method: **365.1** ***Matrix:*** **Water**

Sample ID: **54400-MW181-0415** ***Collected:*** **4/30/2015 11:05:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PHOSPHORUS, TOTAL ORTHOPHOSPHATE (AS PO4)	0.022	J	0.015	MDL	0.15	MRL	mg/L	J	RI

Method Category: **GENCHEM**

Method: **SM 4500SO3_B** ***Matrix:*** **Water**

Sample ID: **54400-MW181-0415** ***Collected:*** **4/30/2015 11:05:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SULFITE	2.0	U HF	0.50	MDL	2.0	MRL	mg/L	UJ	StoA

Sample ID: **54401-MW181-0415** ***Collected:*** **4/30/2015 11:05:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
SULFITE	2.0	U HF	0.50	MDL	2.0	MRL	mg/L	UJ	StoA

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68601-2

Laboratory: TAL DEN

EDD Filename: 280-68601-2_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68637-1 **Laboratory: TAL DEN**

EDD Filename: 280-68637-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: GENCHEM
Method: 9056A **Matrix:** Water

Sample ID: 54400-MW44S-0515 **Collected:** 5/1/2015 8:04:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NITRATE	0.10	J	0.10	LOD	0.50	LOQ	mg/L	J	Rl

Method Category: METALS
Method: 6010C **Matrix:** Water

Sample ID: 54400-MW44S-0515 **Collected:** 5/1/2015 8:04:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
IRON	50	J	85	LOD	100	LOQ	ug/L	U	Mb
POTASSIUM	1900	J	940	LOD	3000	LOQ	ug/L	J	Rl

Method Category: VOA
Method: 8260B **Matrix:** Water

Sample ID: 54400-MW44S-0515 **Collected:** 5/1/2015 8:04:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	9.5	J	6.4	LOD	10	LOQ	ug/L	UJ	Surr, ProfJudg
BROMODICHLOROMETHANE	0.21	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl, Surr
CARBON TETRACHLORIDE	0.34	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl, Surr
CHLOROFORM	0.19	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl, Surr
TRICHLOROETHENE	0.87	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl, Surr

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68637-1

Laboratory: TAL DEN

EDD Filename: 280-68637-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value
Surr	Surrogate/Tracer Recovery Upper Estimation

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68637-2 **Laboratory: TAL DEN**

EDD Filename: 280-68637-2_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **GENCHEM**

Method: **365.1** ***Matrix:*** **Water**

Sample ID: **54400-MW44S-0515** ***Collected:*** **5/1/2015 8:04:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
PHOSPHORUS, TOTAL ORTHOPHOSPHATE (AS PO4)	0.022	J	0.015	MDL	0.15	MRL	mg/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68637-2

Laboratory: TAL DEN

EDD Filename: 280-68637-2_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68855-1 **Laboratory: TAL DEN**

EDD Filename: 280-68855-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev 13_CW**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW44D-0515** ***Collected:*** **5/5/2015 12:15:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3-TRICHLOROBENZENE	0.49	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	1.4	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, ProfJudg
NAPHTHALENE	0.75	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
1,2,4-TRICHLOROBENZENE	0.36	J	0.80	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54402-EB12-0515** ***Collected:*** **5/4/2015 6:40:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	9.4	J	6.4	LOD	10	LOQ	ug/L	J	RI

Sample ID: **54402-EB13-0515** ***Collected:*** **5/5/2015 6:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3-TRICHLOROBENZENE	0.19	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	1.4	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68855-1

Laboratory: TAL DEN

EDD Filename: 280-68855-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68855-2 **Laboratory: TAL DEN**

EDD Filename: 280-68855-2_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW48-0515** ***Collected:*** **5/5/2015 6:30:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
1,1-DICHLOROETHENE	0.34	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
1,2,3-TRICHLOROBENZENE	0.20	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	1.4	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.70	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	1.4	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb
TRICHLOROETHENE	0.47	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68855-2

Laboratory: TAL DEN

EDD Filename: 280-68855-2_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68970-1 **Laboratory: TAL DEN**

EDD Filename: 280-68970-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev 13_CW**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW46D-0515** ***Collected:*** **5/8/2015 8:40:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.21	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
BROMODICHLOROMETHANE	0.78	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.36	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Tb, ProfJudg

Sample ID: **54401-MW46D-0515-DUP** ***Collected:*** **5/8/2015 8:40:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.20	J	0.80	LOD	1.0	LOQ	ug/L	J	RI
BROMODICHLOROMETHANE	0.79	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.34	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Tb, ProfJudg

Sample ID: **54403-TB13-0515** ***Collected:*** **5/7/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.34	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, ProfJudg

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68970-1

Laboratory: TAL DEN

EDD Filename: 280-68970-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-68970-2

Laboratory: TAL DEN

EDD Filename: 280-68970-2_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

No Data Review Qualifiers Applied.

Data Qualifier Summary

Lab Reporting Batch ID: 280-69262-1 **Laboratory: TAL DEN**

EDD Filename: 280-69262-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150615**

Method Category: METALS

Method: 7196A **Matrix: Water**

Sample ID: 54400-MW51-0515 **Collected:** 5/14/2015 1:35:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Chromium, hexavalent	0.0059	J	0.0040	LOD	0.020	LOQ	mg/L	J	Rl

Method Category: VOA

Method: 8260B **Matrix: Water**

Sample ID: 54400-MW51-0515 **Collected:** 5/14/2015 1:35:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	2.1	J	6.4	LOD	10	LOQ	ug/L	U	Eb
CARBON TETRACHLORIDE	1.0	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl
CHLOROFORM	0.28	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
CIS-1,2-DICHLOROETHENE	0.28	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: 54402-EB16-0515 **Collected:** 5/14/2015 3:30:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	4.8	J	6.4	LOD	10	LOQ	ug/L	J	Rl

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69262-1 **Laboratory: TAL DEN**

EDD Filename: 280-69262-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150615**

Reason Code Legend

Reason Code	*Description*
Eb	Equipment Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69265-1 **Laboratory: TAL DEN**

EDD Filename: 280-69265-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20141217_rev 13_CW**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW50S-0515** ***Collected:*** **5/11/2015 6:45:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
BROMODICHLOROMETHANE	0.32	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.38	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: **54401-MW50S-0515** ***Collected:*** **5/11/2015 6:45:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
BROMODICHLOROMETHANE	0.34	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.37	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69265-1

Laboratory: TAL DEN

EDD Filename: 280-69265-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20141217_rev

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69452-1 **Laboratory: TAL DEN**

EDD Filename: 280-69452-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150615**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Soil**

Sample ID: **54400-SB02-0515-15** ***Collected:*** **5/18/2015 5:00:00 PM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
TOLUENE	1.2	J	1.8	LOD	5.6	LOQ	ug/Kg	J	RI
ETHYLBENZENE	0.77	J	1.8	LOD	5.6	LOQ	ug/Kg	J	RI

Sample ID: **54400-SB03-0515-15** ***Collected:*** **5/18/2015 5:51:00 PM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
BENZENE	0.49	J	1.7	LOD	5.2	LOQ	ug/Kg	J	RI
ETHYLBENZENE	0.85	J	1.7	LOD	5.2	LOQ	ug/Kg	J	RI
TOLUENE	1.2	J	1.7	LOD	5.2	LOQ	ug/Kg	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69452-1 **Laboratory: TAL DEN**

EDD Filename: 280-69452-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150615**

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69513-1 **Laboratory: TAL DEN**

EDD Filename: 280-69513-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150615**

Method Category: EM

Method: 9045D **Matrix: Soil**

Sample ID: 54400-IDW01-0515 **Collected:** 5/19/2015 4:30:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PH	8.54		0.100	LOD	0.100	LOQ	pH	J	StoA

Sample ID: 54400-IDW02-0515 **Collected:** 5/19/2015 4:35:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
PH	8.48		0.100	LOD	0.100	LOQ	pH	J	StoA

Method Category: METALS

Method: 6010B-TCLP **Matrix: Soil**

Sample ID: 54400-IDW01-0515 **Collected:** 5/19/2015 4:30:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHROMIUM	0.0032	J	0.013	LOD	0.50	LOQ	mg/L	J	Rl
LEAD	0.26	J	0.050	LOD	0.50	LOQ	mg/L	U	Mb

Sample ID: 54400-IDW02-0515 **Collected:** 5/19/2015 4:35:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BARIUM	2.0		0.010	LOD	1.0	LOQ	mg/L	J	Ms
CADMIUM	0.0053	J	0.0090	LOD	0.10	LOQ	mg/L	J	Rl
CHROMIUM	0.0036	J	0.013	LOD	0.50	LOQ	mg/L	J	Rl, Ms
LEAD	0.057	J	0.050	LOD	0.50	LOQ	mg/L	U	Mb

Method Category: VOA

Method: 8260B **Matrix: Water**

Sample ID: 54400-MW53D-0515 **Collected:** 5/19/2015 8:55:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	1.4	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl
CHLOROFORM	0.25	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69513-1 **Laboratory: TAL DEN**

EDD Filename: 280-69513-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150615**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW53S-0515** ***Collected:*** **5/19/2015 11:50:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CARBON TETRACHLORIDE	1.1	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.22	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHENE	0.33	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69513-1 **Laboratory: TAL DEN**

EDD Filename: 280-69513-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150615**

Reason Code Legend

Reason Code	*Description*
Lcs	Laboratory Control Spike Upper Estimation
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
RI	Reporting Limit Trace Value
StoA	Sampling to Analysis Rejection

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69589-1 **Laboratory: TAL DEN**

EDD Filename: 280-69589-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Method Category: METALS

Method: 6010C **Matrix: Water**

Sample ID: 54400-MW54-0515 **Collected:** 5/20/2015 4:20:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	1300	J	940	LOD	3000	LOQ	ug/L	J	RI

Method Category: VOA

Method: 8260B **Matrix: Water**

Sample ID: 54400-MW54-0515 **Collected:** 5/20/2015 4:20:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMODICHLOROMETHANE	0.56	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
BROMOFORM	0.24	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	1.8	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.59	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.60	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

Sample ID: 54401-MW54-0515 **Collected:** 5/20/2015 4:20:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMODICHLOROMETHANE	0.55	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
BROMOFORM	0.25	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	1.9	J	0.40	LOD	2.0	LOQ	ug/L	J	RI
CHLOROFORM	0.58	J	0.40	LOD	1.0	LOQ	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.62	J	0.40	LOD	1.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69589-1 **Laboratory: TAL DEN**

EDD Filename: 280-69589-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69589-2 **Laboratory: TAL DEN**

EDD Filename: 280-69589-2_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Method Category: **GENCHEM**

Method: **SM 4500SO3_B** ***Matrix:*** **Water**

Sample ID: **54400-MW54-0515** ***Collected:*** **5/20/2015 4:20:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
SULFITE	2.0	U HF	0.50	MDL	2.0	MRL	mg/L	UJ	StoA

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69589-2 **Laboratory: TAL DEN**

EDD Filename: 280-69589-2_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Reason Code Legend

Reason Code	*Description*
StoA	Sampling to Analysis Estimation

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69680-1 **Laboratory: TAL DEN**

EDD Filename: 280-69680-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Method Category: **VOA**

Method: **8260B** ***Matrix:*** **Water**

Sample ID: **54400-MW52S-0515** ***Collected:*** **5/21/2015 5:02:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.38	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Tb
TRANS-1,2-DICHLOROETHENE	0.41	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: **54403-TB18-0515** ***Collected:*** **5/21/2015 12:00:00 AM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,3-TRICHLOROBENZENE	0.23	J	0.80	LOD	1.0	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	0.88	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-69680-1 **Laboratory: TAL DEN**

EDD Filename: 280-69680-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-70279-1 **Laboratory: TAL DEN**

EDD Filename: 280-70279-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Method Category: METALS

Method: 6010C **Matrix: Water**

Sample ID: 54400-MW55D-0615 **Collected:** 6/4/2015 3:10:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
POTASSIUM	1400	J	940	LOD	3000	LOQ	ug/L	J	Rl
IRON	38	J	85	LOD	100	LOQ	ug/L	J	Rl

Method Category: VOA

Method: 8260B **Matrix: Water**

Sample ID: 54400-MW43-0615 **Collected:** 6/4/2015 9:15:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.21	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
CARBON TETRACHLORIDE	0.62	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl
METHYLENE CHLORIDE	1.4	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb
TRICHLOROETHENE	0.23	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: 54400-MW55D-0615 **Collected:** 6/4/2015 3:10:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.32	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: 54400-MW55S-0615 **Collected:** 6/4/2015 2:05:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.70	J	0.40	LOD	2.0	LOQ	ug/L	J	Rl
CHLOROFORM	0.26	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl

Sample ID: 54402-EB18-0615 **Collected:** 6/4/2015 9:25:00 AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ACETONE	6.6	J	6.4	LOD	10	LOQ	ug/L	J	Rl

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-70279-1 **Laboratory: TAL DEN**

EDD Filename: 280-70279-1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Reason Code Legend

Reason Code	*Description*
Mb	Method Blank Contamination
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-70279-3 **Laboratory: TAL DEN**

EDD Filename: 280-70279-3_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Method Category: **GENCHEM**

Method: **365.1** ***Matrix:*** **Water**

Sample ID: **54400-MW55D-0615** ***Collected:*** **6/4/2015 3:10:00 PM** ***Analysis Type:*** **Initial/TOT** ***Dilution:*** **1**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
PHOSPHORUS, TOTAL ORTHOPHOSPHATE (AS PO4)	0.016	J	0.015	MDL	0.15	MRL	mg/L	J	RI

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-70279-3 **Laboratory: TAL DEN**

EDD Filename: 280-70279-3_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-70577-1

Laboratory: TAL DEN

EDD Filename: 280-70577-1_UrsMcConnell

eQAPP Name: URS-McConnell AFB PBR_20150625

No Data Review Qualifiers Applied.

Data Qualifier Summary

Lab Reporting Batch ID: 280-70723-1 **Laboratory: TAL DEN**

EDD Filename: 280-70723-1_Rev1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Method Category: METALS

Method: 6010C **Matrix: Water**

Sample ID: 54400-IDW06-0615 **Collected:** 6/12/2015 3:05:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
IRON	1500	J	85	LOD	100	LOQ	ug/L	J	Ms

Method Category: VOA

Method: 8260B **Matrix: Water**

Sample ID: 54400-IDW06-0615 **Collected:** 6/12/2015 3:05:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.32	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb

Sample ID: 54400-MW41D-0615 **Collected:** 6/12/2015 1:50:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHENE	0.32	J	0.80	LOD	1.0	LOQ	ug/L	J	Rl
TRANS-1,2-DICHLOROETHENE	0.19	J	0.40	LOD	1.0	LOQ	ug/L	J	Rl
VINYL CHLORIDE	0.66	J	0.20	LOD	1.5	LOQ	ug/L	J	Rl

Sample ID: 54400-MW41S-0615 **Collected:** 6/12/2015 12:05:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.41	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb, Eb, Tb
VINYL CHLORIDE	0.42	J	0.20	LOD	1.5	LOQ	ug/L	J	Rl

Sample ID: 54402-EB19-0615 **Collected:** 6/12/2015 3:00:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.35	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

Sample ID: 54403-TB22-0615 **Collected:** 6/12/2015 12:05:00 PM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.39	J	0.80	LOD	5.0	LOQ	ug/L	U	Mb

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB

Data Qualifier Summary

Lab Reporting Batch ID: 280-70723-1 **Laboratory: TAL DEN**

EDD Filename: 280-70723-1_Rev1_UrsMcConnell **eQAPP Name: URS-McConnell AFB PBR_20150625**

Reason Code Legend

Reason Code	*Description*
Eb	Equipment Blank Contamination
Mb	Method Blank Contamination
Ms	Matrix Spike Upper Estimation
Rl	Reporting Limit Trace Value
Tb	Trip Blank Contamination

* denotes a non-reportable result

Project Name and Number: 3969-211 - McConnell AFB